ENGINEERING FORUM TELECONFERENCE MINUTES
April 5, 2000

Susan Webster (Region 6), the forum representative for the Mining Waste Steering Committee, will forward information to the co-chairs regarding a Scientist-to-Scientist meeting to be held June 14th and 15th in Las Vegas, NV. The tentative topics will include characterization and monitoring issues, remote sensing, fate and transport, control of mine releases, risk assessment issues, remediation and treatment issues, environmental effects, eco topics, modeling, and predictive-type issues. Susan will distribute more information when it becomes available. EPA will be using PlaceWare software, so forum members may be able to participate over the internet.

Another Scientist-to-Scientist Steering Committee meeting dealing with MTBE is being scheduled for June 20-21 in Chicago. The tentative agenda includes presentations on health effects, policy and regulatory issues, site characterization, fate and transport, and clean up options. Those forum members who are interested in attending this meeting in person or via video conference should contact JoAnn Cola (Region 9).

TECHNICAL ISSUES

Issue 1
Tony Holoska (Region 5) discussed the U.S. Army Corps of Engineers (USACE), St. Paul District's involvement in a 5-year review at the Mid-State Disposal landfill site in Marathon County, Wisconsin. The site consists of a 30-acre landfill, an old mound area, a 7-acre expansion landfill and a 3-acre sludge disposal lagoon. Between 1970 and 1979, a wide variety of domestic, commercial, industrial, institutional, and construction waste was deposited at the site, including asbestos, paper mill sludges, solvents, pesticides, and heavy metals. The geology is brown marine till with an overlying layer of saprolite. A groundwater divide transects the site, so groundwater flows in more than one direction. Groundwater velocities were approximately 1200 feet/year in one direction, and as little as 125 feet/year in the other direction.

The site was permitted by Wisconsin Department of Natural Resources in 1970, before RCRA and Superfund laws were enacted. In 1980, EPA began investigating the site for inclusion on the National Priorities List (NPL). A remedial investigation was completed between 1983 and 1988. The risk drivers were 1,1-dichloroethene and trichloroethylene, and the risks were determined to be as high as 10^{-3} in terms of ingestion of groundwater. Landfill gas containing vinyl chloride, surface seepage, and erosion of the landfill were also found during the review. The ROD consisted of a landfill cap, active gas extraction, improvements to site drainage, alternate water supply, monitoring for groundwater to surface water contamination, monitoring landfill gas, offsite treatment of leachate, fencing, road construction, and institutional controls. A consent agreement for the cleanup was signed in March 1990. The remedial action consisted of two phases, which were completed in 1993-94. The O&M costs were $536,000. In 1998, a 5-year review was planned for the site, and USACE conducted the review.

EPA Region 5 wanted an objective review, so they asked USACE to participate. The scope of work was agreed upon up front, and was worked out with the RPM for the site. USACE did the work and gave an

objective review of their findings. Applicable or Relevant and Appropriate Requirements (ARARs) included an existing clay cover, 24" new clay cover, 30" frost protection/vegetative support layer, and 6" of topsoil.

The review process included a preliminary review of available documentation, a one-day site visit, site assessment checklist preparation, review and analysis of 12 Remedial Action Monitoring Reports, and report preparation. Follow-on activities have included another on-site meeting and review of additional data obtained after the 5-year review recommendations were made. The review team inspected leachate and gas collection systems and monitoring wells. The landfill gas collection system was deemed to be intact and working. Several wells were found to be in poor condition, so the USACE recommended repairing them. In all, 21 of 26 wells needed rehabilitation. Another USACE recommendation was to trim the vegetation covering the landfill.

The review team included a geologist, a geotechnical engineer, a mechanical engineer, and a civil engineer from St. Paul District and a geotechnical engineer from the USACE HTRW Center of Expertise. The EPA's RPM, an engineer from Wisconsin Department of Natural Resources, and the PRP's project manager also attended the site visit and provided information for the review. The remedies at the site were determined to be protective. Other recommendations made as a result of the 5-year review included the following:

- Address sloughing of a slope adjacent to a sludge lagoon;
- Correct electrical code deficiencies on mechanical equipment;
- Perform additional groundwater modeling to define and predict contaminant movements;
- Modify the triggers in an alternative water supply plan for nearby residential properties; and
- Verify expected leachate volumes through HELP modeling.

BUDGET:

Total Funds Provided	$30,000.00
Total Spent on 5-Yr Review	$21,000.00

Remaining funds are being used to address comments from the responsible party and their consultant.

SCHEDULE:

Task	**Date**
Site Visit:	27-Oct-98
Draft Report to EPA:	02-Dec-98
Final Report to EPA:	26-Jan-99
Follow-on Meeting:	18-Nov-99
Review Additional Data:	Ongoing Effort

LESSONS LEARNED:

- A clear, detailed scope of work between EPA and USACE sets mutual cost and effort expectations;
- All available information should be provided up-front to aid in project scoping and to focus the review;

- The site operator should be available to answer questions and operate equipment during the site visit;
- Landfill sites should be mowed immediately prior to the site visit; and
- USACE technical expertise is valuable when dealing with RP's and their consultants.

USACE HTRW Center of Expertise developed 22 checklists to review remediation systems. The objective of these checklists is to increase the effectiveness of existing long-term remediation systems. USACE terminology for these checklists is "Remediation System Evaluation (RSE) Checklists." The following checklists are available (accurate as of January 27, 2000):

- Above-Ground Treatment Systems Performance Checklist;
- Advanced Oxidation Technologies Checklist;
- In-situ Air Sparging Surface Performance Checklist;
- Air Stripping Performance Checklist;
- Bioventing Subsurface Performance Checklist;
- Vapor/Off-Gas Blower and Piping Systems Checklist;
- Landfill Off-Gas Treatment, Thermal Oxidation Checklist;
- Process Instrumentation and Control Checklist;
- Environmental Monitoring Checklist;
- Treatment Water Disposal Checklist;
- Ground Water Extraction Systems Subsurface Performance Checklist;
- Chemical feed and Storage Performance Checklist;
- Filtration System Performance Checklist;
- Remediation Systems Evaluation Checklist;
- Liquid Piping and Pumping Systems Checklist;
- Liquid Phase Carbon Adsorption Checklist;
- Metals Precipitation Performance Checklist;
- Oil-Water Separation Performance Checklist;
- Solids Handling Checklist;
- Soil Vapor Extraction Subsurface Performance Checklist;
- Vapor Phase Carbon Absorption Checklist; and
- Extraction, Injection and Monitoring Wells Performance Checklist.

The checklists are available on the web at:
http://www.environmental.usace.army.mil/library/guide/rsechk/rsechk.html.

USACE technical assistance or support for completing 5-year reviews is available through the existing Generic Interagency Agreement (Generic IAG). Funding is available for this support. The Mid-State Disposal, WI, site is an example of a 5-year review completed in support of Region 5. USACE conducted eight 5-year reviews for Region 4 in 1999. This current year, USACE is working on sixteen 5-year reviews for Region 4. The checklists can also be used as a system evaluation and optimization, and the cost is approximately $25,000 per site.

Some of these performance checklists could be used to verify that remediation and design construction are headed in the right direction; this information may be helpful to EPA Headquarters when they conduct scientific peer reviews.

Please feel free to contact Bob Warda (USACE) if you have any questions concerning the checklist, the Generic IAG, or the process to request USACE assistance. While at EPA Region 5, Bob can be found at workstation 6026 and his telephone number is (312) 353-2112. His number at USACE is (312) 353-3679.

Greg Mellema (USACE) mentioned that USACE's Ft. Worth District provided training on 5-year reviews and the RSE process about a month ago for which they prepared a package of training materials. JoAnn Cola (Region 9) asked Greg if he could bring some of these training materials to the spring meeting. The forum is interested in melding the EPA 5-year review process with the RSE process.

The 5-year reviews run smoothly when a site is running well and there are not many problems. When there are problems, no one wants to take the blame and some criticism or USACE recommendations may not be included in EPA's final report. EPA has the final say regarding what is included in the report.

Five-year reviews are critical, especially for those sites that were evaluated and remediated before RCRA and Superfund laws were enacted. Technology is constantly changing, so updating is essential to maintain the integrity of these older sites. Bob Stamnes (Region 10) noted that the goal of 5-year reviews is not to update technology, but rather to make sure that the site is still protective of human health and the environment. Other forum members mentioned that the site could be made safer by updating the technology.

Issue 2

Bob Stamnes (Region 10) solicited ideas for an RPM who wants to ensure that disposal costs are kept down and competition is kept up at his site. The RPM has a thermal desorber and 30,000 cubic yards of material. He has a local off-site facility that is a little cheaper than bringing a thermal desorption unit onsite. He wants to leave the contract open so that the remedial action party can choose between onsite and offsite treatment. The RPM is looking for examples where the option was left open, and any problems that may have arisen with this situation.

- Bob Warda (USACE) can put Stamnes in contact with an RPM in Wisconsin who can discuss onsite thermal desorption costs.
- Steve Kinser (Region 7) suggested that the RPM write the bid package saying that the remedy is thermal desorption and that treatment options could be onsite offsite, or a combination of the two.
- Andrea Mclaughlin (OERR) suggested that the RPM state this in the ROD. The RPM thinks that the public might have problems with the combination option. Andrea believes that there is specific language in the "significant changes" section of the guidance that discusses what can be included in the ROD. The RPM might not be required to notify the public, but

it would be the right thing to do. There may be problems if the haul route goes through a residential neighborhood.

- Proximity to rail and barge transportation may better facilitate offsite treatment. The problems are not with the contract, but with legal problems associated with the public.
- Rich Ho (Region 2) suggested a ROD amendment.
- Ed Mead (USACE) suggested that, in the RFP, companies could submit either way–offsite or onsite. You can then evaluate which option works best and which is most cost effective.

SPRING MEETING

The spring meeting agenda has been finalized. Wednesday and Thursday will be full sessions. An extra hour has been added to Friday morning in case the forum needs more discussion time. The scoping session topics have been added to the agenda; the co-chairs will be asking for volunteers to serve on committees to organize these projects.

The co-chairs will be meeting with Bob Hall, Walt Kovalick, and Bob Means (sitting in for Steve Luftig) on Tuesday afternoon. Forum members should contact the co-chairs if they have any issues they would like addressed.

Due to TIO budget cuts, as much as 30% of the TSP budget may be cut. The joint co-chairs have opted to propose one fully supported meeting in the spring and one meeting in fall with limited EMS support. The fall meeting would likely be in a regional city.

Personnel Changes

Effective immediately, Rich Steimle will be concentrating primarily on the Ground Water Forum; Juan Parra (TIO) will be the new TSP representative for the Engineering Forum. Rich will retain overall responsibility for the three forums and should still be considered the point of contact for the TSP.

ATTENDEES

Chet Janowski, Region 1
George Jacob, Region 2
Richard Ho, Region 2
Stacie Driscoll, Region 3
Frank Vavra, Region 3
Tony Holoska, Region 5
Nate Nemani, Region 5
Camille Hueni, Region 6
Gene Keeper, Region 6
Susan Webster, Region 6
Steve Kinser, Region 7
Nancy Morlock, Region 8
Bill Rothenmeyer, Region 8
JoAnn Cola, Region 9
Bob Stamnes, Region 10
Neil Thompson, Region 10
Juan Parra, TIO
Andrea Mclaughlin, OERR
Trish Erickson, NRMRL/Cinc.
Marta Richards, NRMRL/Cinc.
Bill Crawford, USACE
Craig Evans, USACE
Dave Jaros, USACE
Ed Mead, USACE
Greg Mellema, USACE
Keith Arnold, EMS, Inc.